

Appl. No. 09/864,836
Amdt. Dated April 9, 2004
Reply to Restriction Requirement of March 23, 2004

Amendments to the Claims:

This listing will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A disposable diaper comprising:

an elastically stretchable covering member for covering a diaper wearer's crotch and waist regions;

a liquid-pervious sheet having a skin contactable surface for contacting with skin of said diaper wearer;

a liquid-absorbent core member sandwiched between said liquid-pervious sheet and said covering member;

discrete elastic members provided along transverse side edges of said diaper to extend circumferentially along leg-openings that are defined when the diaper is put on the diaper wearer;

said covering member consisting of an elastically stretchable first layer and an inelastically stretchable second layer formed of a plurality of continuous fibers, said continuous fibers being fixed to said elastically stretchable first layer in at least a pair of bonding zones spaced apart from each other so that a ratio of L/D , L_1/D_1 , where L L_1 is a length of said continuous fibers extending between said a first pair of said bonding zones in a first zone on said covering member and D D_1 is a

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distance in a straight line between said first pair of bonding zones, zones in said first zone of said covering member is larger than a ratio of L₂/D₂, where L₂ is a length of said continuous fibers extending between a second pair of said bonding zones in a second zone on said covering member and D₂ is a distance in a straight line between said second pair of bonding zones in said second zone of said covering member, in a first zone on said covering member than in a remaining zone, so that said covering member can be more easily stretched in a direction away from the skin contactable surface in said first zone than in said remaining zone, zone of said covering member, and said first zone being adjacent said liquid-absorbent core member and at least substantially coextensive with said liquid-absorbent core member, so that pressure exerted on said covering member by said liquid-absorbent core member will stretch the first zone in said direction of the skin contactable surface.

Claim 2 (previously presented): The diaper according to Claim 1, wherein said first zone is a transversely middle zone of said diaper.

Claim 3 (previously presented): The diaper according to Claim 1, wherein said elastically stretchable first layer is formed of an elastically stretchable film.

Claim 4 (previously presented): The diaper according to Claim 1, wherein said continuous fibers of said inelastically stretchable second layer are made of polypropylene.

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Claim 5 (previously presented): The diaper according to Claim 1, wherein said elastically stretchable first layer is formed from a liquid-impervious sheet and lies inside said second layer.

Claim 6 (previously presented): The diaper according to Claim 1, wherein said elastically stretchable first layer is formed from a liquid-impervious sheet and lies inside said inelastically stretchable second layer so that said elastically stretchable first layer functions as a liquid-impervious backsheet for said liquid-absorbent core member.

Claim 7 (previously presented): A process for making a disposable diaper having an elastically stretchable covering member for covering a diaper wearer's crotch and waist regions, a liquid-pervious sheet for contacting with skin of said diaper wearer, and a liquid-absorbent core member sandwiched between said liquid-pervious sheet and said covering member, said process comprising the steps of:

providing an elastically stretchable first layer destined to form said covering member;

providing a second layer formed with a plurality of inelastic stretchable continuous fibers;

bonding said elastically stretchable first layer and said second layer together at a plurality of intermittently formed bonding zones to thereby form a composite sheet;

stretching only a portion of said composite sheet in one direction so that said elastically stretchable first layer of said portion may be elastically stretched together with said continuous fibers;

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allowing said composite sheet to contract under a contractile force of said first elastically stretchable layer to form said covering member; and

incorporating said cover member into a disposable diaper having a liquid-absorbent core member so that said stretched and contracted portion of said composite sheet is adjacent and at least substantially coextensive with said liquid-absorbent core member.

Claim 8 (previously presented): The diaper according to Claim 1, wherein said elastically stretchable first layer is formed of a nonwoven fabric made of crimped fibers.

Claim 9 (previously presented): The diaper according to Claim 1, wherein said continuous fibers of said inelastically stretchable second layer are made of propylene copolymers.

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Pending Claims:

This listing will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (previously presented): A disposable diaper comprising:

an elastically stretchable covering member for covering a diaper wearer's crotch and waist regions;

a liquid-pervious sheet having a skin contactable surface for contacting with skin of said diaper wearer;

a liquid-absorbent core member sandwiched between said liquid-pervious sheet and said covering member;

discrete elastic members provided along transverse side edges of said diaper to extend circumferentially along leg-openings that are defined when the diaper is put on the diaper wearer;

said covering member consisting of an elastically stretchable first layer and an inelastically stretchable second layer formed of a plurality of continuous fibers, said continuous fibers being fixed to said elastically stretchable first layer in at least a pair of bonding zones spaced apart from each other so that a ratio of L/D, where L is a length of said continuous fibers extending between said pair of bonding zones and D is a distance in a straight line between said pair of bonding zones, is larger in

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a first zone on said covering member than in a remaining zone, so that said covering member can be more easily stretched in a direction away from the skin contactable surface in said first zone than in said remaining zone, and said first zone being adjacent said liquid-absorbent core member and at least substantially coextensive with said liquid-absorbent core member, so that pressure exerted on said covering member by said liquid-absorbent core member will stretch the first zone in said direction of the skin contactable surface.

Claim 2 (previously presented): The diaper according to Claim 1, wherein said first zone is a transversely middle zone of said diaper.

Claim 3 (previously presented): The diaper according to Claim 1, wherein said elastically stretchable first layer is formed of an elastically stretchable film.

Claim 4 (previously presented): The diaper according to Claim 1, wherein said continuous fibers of said inelastically stretchable second layer are made of polypropylene.

Claim 5 (previously presented): The diaper according to Claim 1, wherein said elastically stretchable first layer is formed from a liquid-impermeable sheet and lies inside said second layer.

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Claim 6 (previously presented): The diaper according to Claim 1, wherein said elastically stretchable first layer is formed from a liquid-impervious sheet and lies inside said inelastically stretchable second layer so that said elastically stretchable first layer functions as a liquid-impervious backsheet for said liquid-absorbent core member.

Claim 7 (previously presented): A process for making a disposable diaper having an elastically stretchable covering member for covering a diaper wearer's crotch and waist regions, a liquid-pervious sheet for contacting with skin of said diaper wearer, and a liquid-absorbent core member sandwiched between said liquid-pervious sheet and said covering member, said process comprising the steps of:

providing an elastically stretchable first layer destined to form said covering member;

providing a second layer formed with a plurality of inelastic stretchable continuous fibers;

bonding said elastically stretchable first layer and said second layer together at a plurality of intermittently formed bonding zones to thereby form a composite sheet;

stretching only a portion of said composite sheet in one direction so that said elastically stretchable first layer of said portion may be elastically stretched together with said continuous fibers;

allowing said composite sheet to contract under a contractile force of said first elastically stretchable layer to form said covering member; and

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incorporating said cover member into a disposable diaper having a liquid-absorbent core member so that said stretched and contracted portion of said composite sheet is adjacent and at least substantially coextensive with said liquid-absorbent core member.

Claim 8 (previously presented): The diaper according to Claim 1, wherein said elastically stretchable first layer is formed of a nonwoven fabric made of crimped fibers.

Claim 9 (previously presented): The diaper according to Claim 1, wherein said continuous fibers of said inelastically stretchable second layer are made of propylene copolymers.